



Avantguard: A Shield Against Manufacturing Risks



Enhancing Manufacturing Efficiency

Manufacturing today faces mounting challenges due to intricate supply chains and stringent regulations. Overlooking even minor issues can lead to significant financial losses and reputational damage from recalls, highlighting the importance of high-quality operations. Low-quality products not only risk customer dissatisfaction but also damage brand loyalty and long-term sustainability.

Avantguard, coupled with hardware and intelligent accessories, addresses these challenges head-on. Designed to eliminate defects and streamline processes, our solutions bolster operational efficiency and product quality, ensuring smoother production cycles and reducing costly disruptions.





Error-Proof Process Control Software for Seamless Operations

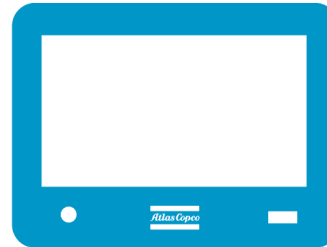
Avantguard, is the ultimate solution in error-proofing that achieves efficiency, and unmatched product quality for manufacturing operations. It transforms the assembly process across all product variants, detecting errors and guides operators through complex tasks, as well as through the repair process.

Keep The Line Moving

Incorrect repairs account from 30-40% of product recalls and safety issues. Avantguard controls and manages factory workflows, reducing errors and downtime for high-quality production. Resulting in reductions in lead time and costs associated with rework, while simultaneously lowering scrap material costs. It can find root causes from missing or loose tightening, incorrect or defective parts or the assembly process.



Error-Proof Process Control Software for Seamless Operations



Tool Interlock

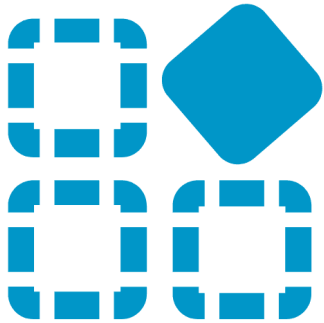
Ensures reliable and consistent fastening processes by selecting the appropriate tool with the correct program, maintaining tightening sequence, and capturing tightening results for repair analysis.

Operator Guidance

Avantguard provides comprehensive operator guidance, enhancing efficiency and accuracy in production processes through step-by-step instructions and real-time feedback

Guided Rework/Repair

Avantguard facilitates guided rework and repair procedures, enabling operators to effectively address issues with clear instructions and support, minimizing downtime and errors.



Part Verification

Avantguard offers robust part verification capabilities, ensuring product quality and compliance by verifying components against specifications during the manufacturing process. Document all part numbers for traceability for easy access and to build a digital birth certificate.

User Authorization

Avantguard incorporates user authorization features, allowing access control and ensuring that only authorized personnel can operate specific functions, enhancing security and accountability.

Device/Machine Integration

Avantguard seamlessly integrates with various devices and machines, enabling interoperability and data exchange across manufacturing systems (MES/PLC) for streamlined operations and enhanced control.

Connectivity



Web-Based Application

Avantguard's worldwide accessibility across devices facilitates seamless data access and collaboration, enhancing operational flexibility and efficiency. Easily make changes to the production process quickly and there is no coding required.

Updateability

Regular software updates by Avantguard ensure security and access to the latest features, guaranteeing long-term reliability and relevance.

Responsiveness

Its' responsive design delivers a consistent user experience across devices, extending accessibility and ease of maintenance while broadening its user base.

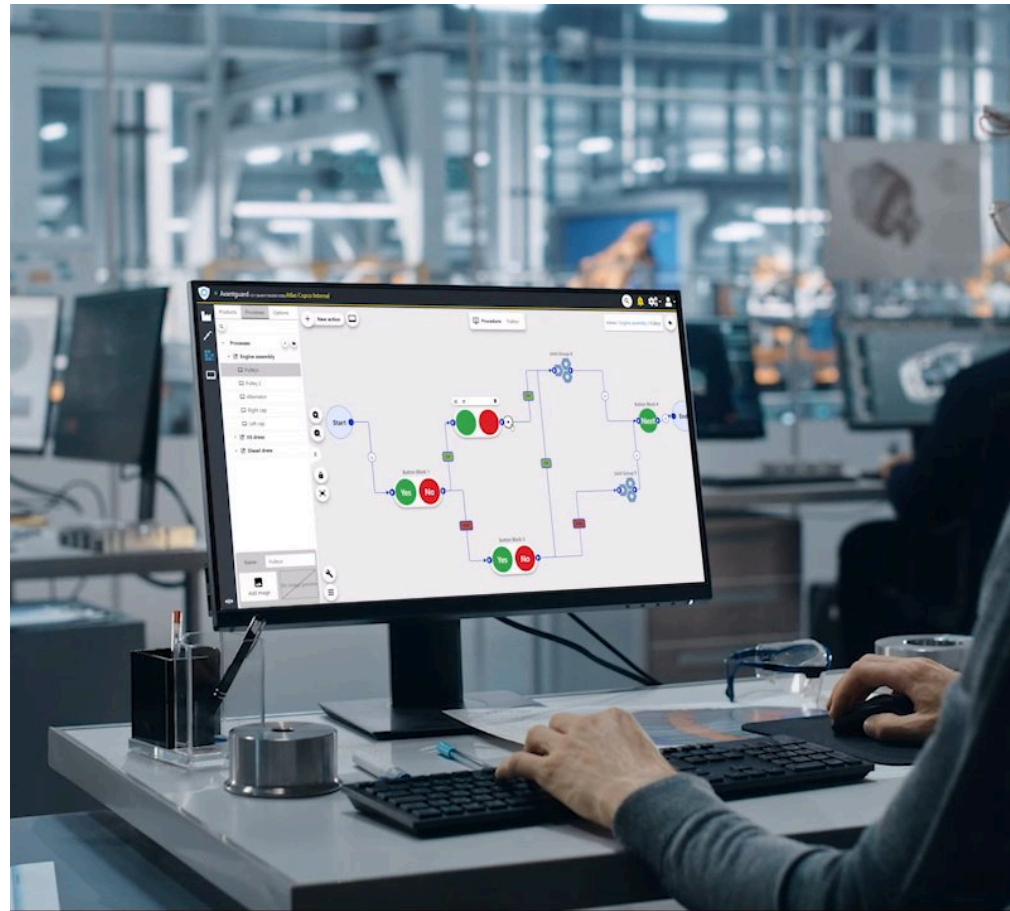


Process Control
Doing it right, the first time!

To control and orchestrate an assembly process, Avantguard connects to the devices and machines on the shop floor. For the most part, these are Atlas Copco's tightening tools and controllers, handheld battery tools, wrenches but also multi spindle controllers.

Avantguard ensures the tools are activated at the right time and with the correct tightening program. This way operators can use them only when needed and with the correct parameters of the task.

For complex production processes, Avantguard offers an operator guidance, which provides operators with on screen instructions that guide them through the assembly process which allow them to interact with the system through a web browser.



It adapts the assembly process and the operator guidance to the exact requirements of the product variants and options that need to be built at that time. To do this, it connects to a customer's Manufacturing Execution System (MES) to retrieve the correct information so it can pick the correct assembly steps in the correct sequence.

Avantguard collects the results of every assembly step for traceability purposes which can then be transferred to ToolsNet 8 so that you can generate product reports and identify areas for improvement. In addition, these results can guide operators through the repair process for a faulty product.

4 steps to process control



SET UP - Connect to MES/PLC and set up work processes in Avantguard



CONNECT - Connect tool and/or the operator guidance system



RESULTS - Collects the results for traceability and/or rework



REPORT - Data is sent to ToolsNet8 for in-depth reporting

Seamlessly connect your IoT devices into your work instructions for enhanced operational efficiency and real-time insights.



TIGHTENING TOOLS



STACK LIGHTS



CONTROLLERS



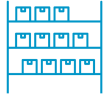
SCANNERS



PLC/MES



LEAK TESTERS



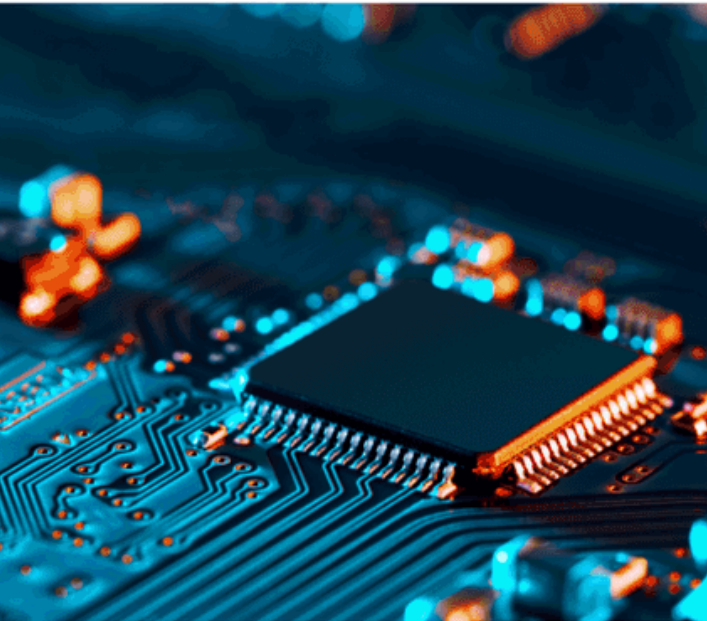
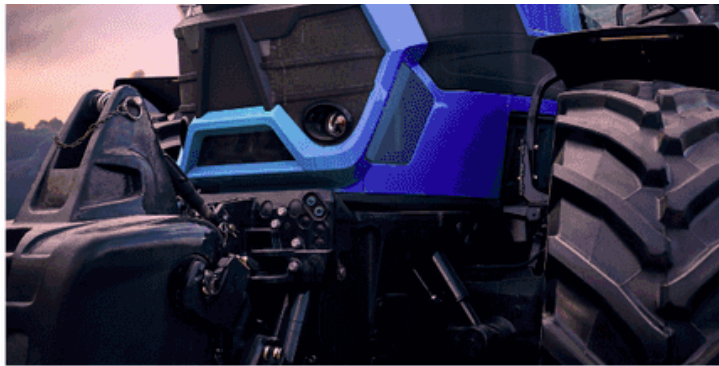
PICK TO LIGHT



PRINTERS



MORE TO COME



Avantguard Revolutionizes Manufacturing Excellence





Improve Product Quality

Avantguard significantly reduces quality issues, repairs, and warranty claims, ensuring superior product quality and customer satisfaction.



Increase Efficiency & Profitability

Avantguard streamlines operations, resulting in fewer non-conforming products, thereby saving both time and costs associated with rework and increasing production output.



Minimize downtime and costs:

This leads to reduced costs by reducing downtime, minimizing scrap materials and optimizing resource utilization throughout the manufacturing process.



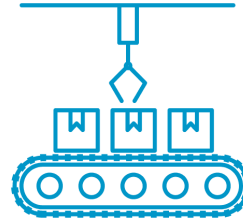
Reduce Operator Training Time

The user-friendly interface and intuitive design decrease operator training time, ultimately lowering high fluctuation rates and improving workforce stability.

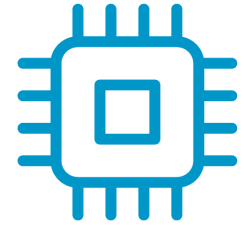
We work with the world's largest players across many manufacturing industries



Automotive OEM & Tiers



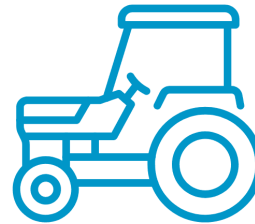
Assembly



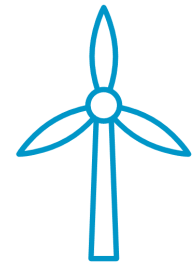
Electronics



Aerospace



Off Road



Energy

A close-up portrait of a man wearing a white hard hat and clear safety glasses with blue frames. He has a slight smile and is looking directly at the camera. The background is a blurred industrial environment with various metal structures and lights.

Success with an Experienced Global Partner

For over two decades, Atlas Copco has been at the forefront of error-proofing and torquing software development, catering to the needs of the largest global players across industries.

With a staggering network of over **80,000** connected tools worldwide and more than **9,000** dedicated error-proofing stations, our commitment to excellence is unwavering.

Our skilled global team continuously enhances our products, delivering new versions with cutting-edge features, compatibility updates, and robust security measures to ensure your operations remain efficient, high-quality, and safe. Partner with Atlas Copco for unparalleled expertise and support on your journey towards operational excellence.





Unleashing Manufacturing Insights



ToolsNet 8

ToolsNet 8 is another component that makes error-proofing the assembly process that much simpler, especially when used alongside Avantguard.

This data collection software is reliable, intuitive, and configured for full traceability, statistical analysis, root cause analysis, and proactivity to detect scenarios within your production environment.

Benefits

- Detecting trends early
- Preventing production halts
- Rapid response to quality issues
- Enhancing production efficiency through analysis



The right support for your needs

Keep Avantguard running smoothly while ensuring uninterrupted operations and maintain the integrity of systems effortlessly.

Our global support structure ensures assistance no matter where your operations are based, providing around-the-clock software expertise for prompt resolution of any issues that may arise.

Quality Critical

Remote Support: Response time < 4 hours, Monday to Friday (8am-5pm)

- Software Updates & Upgrades: Access to latest software releases, critical security updates, software compatibility
- TechCover Portal: Contract details, Ticketing system, Software release notes
- Online product training: Access to latest functionality and use of product

Production Critical

Remote Support: Response time < 30 mins, 24 hours / 5 days a week

- Software Updates & Upgrades: Access to latest software releases, critical security updates, software compatibility
- TechCover Portal: Contract details, Ticketing system, Software release notes
- Online product training: Access to latest functionality and use of product



Revolutionize manufacturing with Avantguard, ensuring efficiency and top-notch product quality.

